

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/09415

A. CLASSIFICATION OF SUBJECT MATTER  
Int.Cl<sup>7</sup> F04B49/10, H02P6/12, F25B49/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
Int.Cl<sup>7</sup> F04B49/10, H02P6/12, F25B49/02Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
Jitsuyo Shinan Koho 1922-1996 Toroku Jitsuyo Shinan Koho 1994-2003  
Kokai Jitsuyo Shinan Koho 1971-2003 Jitsuyo Shinan Toroku Koho 1996-2003

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 2001-333589 A (Toyota Industries Corp.), 30 November, 2001 (30.11.01), Par. Nos. [0002] to [0028]; Figs. 1 to 2 (Family: none)	1-3, 6-7, 9, 13, 18, 21, 23-24, 28 5-9, 25-26 10-12, 14-17, 20, 22, 27, 29-38
Y		
A		
X	JP 2002-138966 A (Daikin Industries, Ltd.), 17 May, 2002 (17.05.02), Par. Nos. [0002] to [0009] (Family: none)	1, 3, 6, 13-14, 18-19 25-26
Y		

 Further documents are listed in the continuation of Box C. See patent family annex.

- \* Special categories of cited documents:
- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search  
02 September, 2003 (02.09.03).Date of mailing of the international-search report  
16 September, 2003 (16.09.03)Name and mailing address of the ISA/  
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

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PCT/JP03/09415

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 2002-136172 A (Daikin Industries, Ltd.), 10 May, 2002 (10.05.02), Par. Nos. [0044] to [0095]; Figs. 1 to 15 (Family: none)	1-2
Y		5-8
A	Par. Nos. [0044] to [0095]; Figs. 1 to 15 (Family: none)	34-38
X		1-2, 4, 6-7
A	JP 2001-280258 A (Seiko Instruments Inc.), 10 October, 2001 (10.10.01), Par. Nos. [0039] to [0060]; Figs. 1 to 7 (Family: none)	34-38
X		1-2, 4
A	JP 2001-186800 A (Toyo Electric Mfg. Co., Ltd.), 06 July, 2001 (06.07.01), Par. Nos. [0011] to [0024]; Fig. 1 (Family: none)	6-7, 34-38
A	EP 1220064 A2 (Seiko Instruments Inc.), 03 July, 2002 (03.07.02), Full text; Figs. 1 to 17 & US 2002/128730 A1 & JP 2002-202802 A	1-38
A	US 2002/184899 A1 (Hiroyuki ASADA, Kazuhiro TOGARU), 12 December, 2002 (12.12.02), Full text; Figs. 1 to 4 & DE 10126524 A1 & JP 2001-347828 A	10-12